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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,147	06/22/2006	Jean-Marc Suau	292165US0PCT	1437

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

NGUYEN, VU ANH

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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10/26/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/584,147

Applicant(s)

SUAU ET AL.

Examiner

Vu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-107 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-50, 52-56, 60-64, 67-79, 81-85, 89-93 and 96-107 is/are rejected.
- 7) ☒ Claim(s) 51, 57-59, 65, 66, 80, 86-88, 94 and 95 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/22/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office action is in response to the Amendment filed 07/06/2009, wherein claims 1-40 have been cancelled and new claims 41-107 have been added.
2. The amendment to the specification, filed 07/06/2009, contains incorrect data. The filing date of the French Application should be December 24, **2003**, not December 24, **2004**. Correction is required.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 41, 46, 69, 70, 75, 99, 103, 105 and 106 are objected to because of the following informalities: In claims 41 and 70, there should be an "and" before Bu_3HN^+ ; in claims 46 and 75, the semicolon following "vinyl ester" should be changed to a comma; claims 69, 99, 103 and 105, the "or" before the last species should be changed to an

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"and"; and in claim 106, line 2, an "or" should be inserted before "in a drilling mud".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 41-50, 52-56, 60-64, 67-79, 81-85, 89-93 and 96-107 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egraz et al. (US 6,093,764) in view of Couturier et al. (WO 2004/014926). *Notes: US 2006/0142511 is being used as an English equivalent as WO 2004/014926.*

8. Regarding the limitations set forth in these claims, Egraz et al. (Egraz, hereafter) discloses a polymer, a method of its preparation, a method of dispersing mineral substances in aqueous media using said polymer, and a use of said dispersion/suspension in paper industry (col. 1, lines 5-16), wherein said polymer,

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apparently a random copolymer, is prepared from a monomer mixture comprising 10-99 wt% of at least a monomer (a), 0-50 wt% of at least a monomer (b), 0-50 wt% of at least a monomer (c), and 1-90 wt% of at least a monomer (d) (col. 5, lines 42-57). The method of preparing the polymer includes any method of radical polymerization (col. 5, lines 58-62). The monomer (a) and monomer (b) comprise the species being claimed as "anionic monomer" (col. 4, lines 15-35). Monomer (c) includes such species as alkyl (meth)acrylates, (meth)acrylonitrile, vinyl acetate, vinylpyrrolidone, (meth)acrylamide, dimethylaminopropyl (meth)acrylamide, glycol esters of (meth)acrylic acid, methacrylamido-propyltrimethyl-ammonium chloride, dimethyldiallylammonium chloride, and others (col. 4, lines 35-51). Monomer (d) comprises species of the monomer being claimed under formula (I) (col. 3, lines 35-65). The copolymer is apparently water-soluble as it is neutralized and forms a solution in aqueous media (col. 5, lines 63-67; col. 6, lines 26-35). The amount of the polymer in the dispersion is 0.05-5% dry weight relative to the dry weight of the mineral substances (col. 7, lines 28-33). The preparation of the dispersion/suspension involves crushing and grinding (col. 6, lines 20-24; col. 7, lines 3-19). The mineral substances include many of the species being claimed (col. 6, lines 53-61). The disclosed polymer is directed to the following objectives: (1) the polymer should serve as a good dispersing agent/crushing aid for mineral particles having hydrophobic surface as well as those with hydrophilic surface, and (2) it enables a preparation of a dispersion/suspension with a high load of mineral substances without a high increase in viscosity (col. 1).

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9. It is clear that Egraz teaches all the limitations set forth in these claims but fails to teach controlled free radical polymerization using the claimed alkoxyamine.

10. Couturier et al. (Couturier, hereafter) discloses a method of preparing a polymer via controlled radical polymerization using an alkoxyamine as a radical initiator. The alkoxyamine reads on the claimed alkoxyamine [0054]. The polymer comprises those prepared from a wide variety of monomers, including unsaturated acids such as (meth)acrylic acid, itaconic acid, maleic acid; vinyl species such as vinylpyridine and vinylpyrrolidone; numerous derivatives of (meth)acrylic acid such as alkoxy-terminated PEG (meth)acrylate; derivatives of (meth)acrylamide; and others (claim 8).

[Motivations] The disclosed method is said to provide a high but controllable rate of polymerization and provides excellent control of the polydispersity [0002-0004], especially for polymers comprising alkyl (meth)acrylates.

11. In light of such benefits, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have employed the alkoxyamine taught by Couturier as a radical initiator in the preparation of the copolymers taught by Egraz so that the molecular weight and polydispersity can be better controlled and, as a result, the dispersion/suspension can have a high load of the mineral substances while the viscosity is well under control.

Allowable Subject Matter

12. Claims 51, 57-59, 65, 66, 80, 86-88, 94 and 95 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

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independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

13. In response to the Remarks filed 07/06/2009, the previous action was only a communication requesting the corrections of the errors in the claims. The present action is the first action on the merits of the claims.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Nguyen whose telephone number is (571)270-5454. The examiner can normally be reached on M-F 7:30-5:00 (Alternating Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vu Nguyen
Examiner
Art Unit 1796

/David Wu/
Supervisory Patent Examiner, Art Unit 1796